

Claims

- [c1] 1. A method for controlling an on/off state of an internal combustion engine disposed in a motor vehicle, the running internal combustion engine capable of being automatically switched off, comprising: suppressing said capability of automatically switching off in response to detection of a stop-and-go situation.
- [c2] 2. The method of claim 1 wherein said stop-and-go situation is detected when a vehicle brake is released and reactivated within a predetermined time and a velocity of the vehicle is less than a predetermined speed.
- [c3] 3. The method of claim 2 wherein said time is 5 sec.
- [c4] 4. The method of claim 2 wherein said predetermined speed is 5 km/hr.
- [c5] 5. The method of claim 1, further comprising: discontinuing said suppression of said switching off when a vehicle speed is greater than a predetermined speed and an accelerator pedal is activated.
- [c6] 6. The method of claim 1, further comprising: discontinuing said suppression of said switching off when a predetermined waiting time has elapsed.
- [c7] 7. The method of claim 1 wherein said waiting time is approximately 5 seconds.
- [c8] 8. The method of claim 1, further comprising: switching off the engine automatically when said automatic switching is suppressed and a vehicle brake is activated and a predetermined waiting time has elapsed.
- [c9] 9. The method of claim 1 wherein said waiting time is approximately 5 seconds.
- [c10] 10. The method of claim 1, wherein said stop-and-go situation is detected when a reverse (R) or low (L) gear of an automatic transmission is selected, said automatic transmission being coupled to the engine.
- [c11] 11. The method of claim 10, further comprising: discontinuing said suppression of said switching off when a drive (D) or neutral (N) gear of said automatic transmission is selected.
- [c12] 12. The method of claim 1 wherein a global positioning system is coupled to

the vehicle, further comprising:

determining a location of the vehicle via said global positioning system; and detecting said stop-and-go situation based on said location wherein said location is compared to a digital map in which one or more of the following are indicated: an expressway section in which stop-and-go situations are normally encountered, grade crossings, pedestrian crossings, and any location where brief standstills occur.

- [c13] 13. A method for controlling an on/off state of an internal combustion engine disposed in a motor vehicle, the running internal combustion engine capable of being automatically switched off, the engine having an automatic transmission, comprising:
switching off the engine automatically when a velocity of said vehicle is substantially zero and a vehicle brake is activated; and
suppressing said capability of automatically switching off when a park (P) gear of said the automatic transmission is selected.

[c14] 14. A method for controlling an on/off state of an internal combustion engine disposed in a motor vehicle, the running internal combustion engine capable of being automatically switched off, the engine having an automatic transmission, the automatic transmission having a gearshift lever capable of accessing positions drive (D), reverse (R), neutral (N), and manual (M), comprising:
switching off the engine automatically when a velocity of said vehicle is substantially zero and a vehicle brake is activated and the manual (M) position of the automatic transmission is selected.

[c15] 15. The method of claim 14, further comprising starting the engine automatically when said vehicle brake is released.

[c16] 16. The method of claim 14, further comprising starting the engine automatically when an accelerator pedal is activated.

[c17] 17. A method for controlling an on/off state of an internal combustion engine disposed in a motor vehicle, the running internal combustion engine capable of being automatically switched off, the engine having an automatic transmission,

the automatic transmission having a gearshift lever capable of accessing positions drive (D), reverse (R), neutral (N), and manual (M), comprising: switching off the engine automatically when a velocity of said vehicle is substantially zero and a vehicle brake is activated and the drive (D) position of the automatic transmission is selected.

- [c18] 18. The method of claim 17, further comprising switching off the engine automatically when a velocity of said vehicle is substantially zero and a vehicle brake is activated and the neutral (N) position of the automatic transmission is selected
- 19. The method of claim 17, further comprising starting the engine automatically when the drive (D) position of the automatic transmission is selected and one of the following occurs: said vehicle brake is released and an accelerator pedal is activated.
- [c19] 20. The method of claim 18, further comprising starting the engine automatically when the neutral (N) position of the automatic transmission is selected and one of the following occurs: said vehicle brake is released and an accelerator pedal is activated.
- [c20] 21. The method of claim 17, further comprising:
Starting the engine automatically when the manual (M) or reverse (R) position of the automatic transmission is selected; and
suppressing the capability of switching off automatically in response to said starting.
- [c21] 22. The method of claim 18, further comprising:
starting the engine automatically when the manual (M) or reverse (R) position of the automatic transmission is selected; and
suppressing the capability of switching off automatically in response to said starting.
- [c22] 23. A method for controlling an on/off state of an internal combustion engine disposed in a motor vehicle, the running internal combustion engine capable of being automatically switched off, the engine having an automatic transmission,

the automatic transmission having a gearshift lever capable of accessing positions drive (D), reverse (R), neutral (N), and manual (M), comprising: suppressing the capability of switching off automatically when the reverse (R) position of the automatic transmission is selected.

- [c23] 24. The method of claim 23, further comprising discontinuing said suppression of the switching off when a velocity of the vehicle is greater than a predetermined velocity and the reverse (R) position of the automatic transmission is deselected.
- [c24] 25. The method of claim 24 wherein said predetermined velocity is 5 km/hr.
- [c25] 26. A computer readable storage media having stored therein data representing instructions executable by a computer to control an internal combustion engine disposed in a motor vehicle, the running internal combustion engine capable of being automatically switched off, the storage media comprising: instructions to suppress said capability of automatically switching off in response to detection of a stop-and-go situation.
- [c26] 27. The storage media of claim 26 wherein said stop-and-go situation is detected when a vehicle brake is released and reactivated within a predetermined time and a velocity of the vehicle is less than a predetermined speed.
- [c27] 28. The storage media of claim 26, further comprising instructions to discontinue said suppression of said switching off when a predetermined waiting time has elapsed.
- [c28] 29. The storage media of claim 26, further comprising instructions to switch off the engine automatically when said automatic switching is suppressed and a vehicle brake is activated and a predetermined waiting time has elapsed.
- [c29] 30. The storage media of claim 26, wherein said stop-and-go situation is detected when a reverse (R) or low (L) gear of an automatic transmission is selected, said automatic transmission being coupled to the engine.
- [c30] 31. The storage media of claim 30, further comprising instructions to

discontinue said suppression of said switching off when a drive (D) or neutral (N) gear of said automatic transmission is selected.

- [c31] 32. The storage media of claim 26 wherein said stop-and-go situation is detected via a global position system coupled to the vehicle, said global position system sensing when the vehicle is located on expressway sections in which stop-and-go situations are normally encountered.
- [c32] 32. The storage media of claim 26 wherein the vehicle is coupled to a global positioning system, further comprising:
instructions to determine a location of the vehicle via said global positioning system;
a digital map indicating zones in which brief standstills occur; and
instructions to indicate that said stop-and-go situation is detected when said vehicle location corresponds to said standstill zones.
- [c33] 33. The storage media of claim 32 wherein said standstill zones comprise expressway interchanges, highway intersections, pedestrian crossings, or traffic lights.